

IN THE CLAIMS

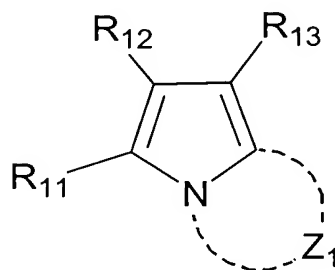
Please amend the claims as follows:

Claim 1 (Currently Amended): An organic thin film transistor comprising:
at least three terminals consisting of a gate electrode, a source electrode and a drain electrode; and

an insulating layer and an organic semiconductor layer on a substrate, which controls an electric current flowing between the source electrode and the drain electrode by applying an electric voltage across the gate electrode, a distance between the source electrode and the drain electrode being 1 μm to 1mm;

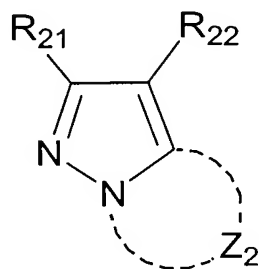
wherein the organic semiconductor layer comprises a heterocyclic compound containing a nitrogen atom formed by condensation between five member rings each having a nitrogen atom at their condensation sites or between a five-member ring and a six-member ring each having a nitrogen atom at their condensation sites, said heterocyclic compound selected from the group consisting of:

(I)



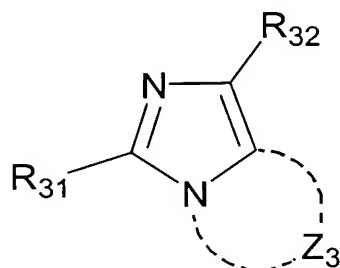
wherein R₁₁, R₁₂ and R₁₃ each independently represents a hydrogen atom or a substituent; and Z₁ represents an atomic group forming a five-member ring or a six-member ring;

(II)



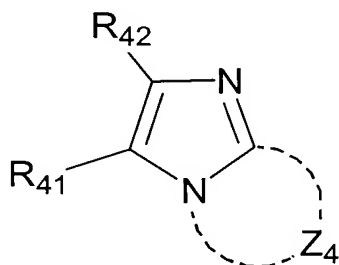
wherein R₂₁ and R₂₂ each independently represents a hydrogen atom or a substituent; and Z₂ represents an atomic group forming a five-member ring or a six-member ring;

(III)



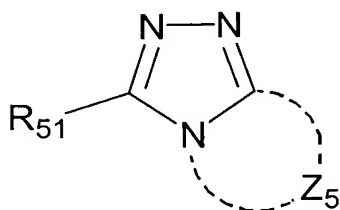
wherein R₃₁ and R₃₂ each independently represents a hydrogen atom or a substituent; and Z₃ represents an atomic group forming a five-member ring or a six-member ring;

(IV)



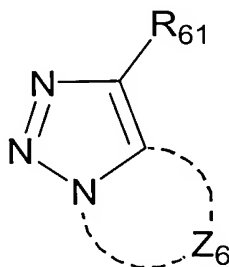
wherein R₄₁ and R₄₂ each independently represents a hydrogen atom or a substituent; and Z₄ represents an atomic group forming a 5-member ring or a 6-member ring;

(V)

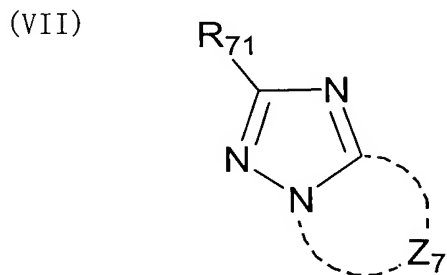


wherein R₅₁ represents a hydrogen atom or a substituent; and Z₅ represents an atomic group forming a five-member ring or a six-member ring;

(VI)



wherein R₆₁ represents a hydrogen atom or a substituent; and Z₆ represents an atomic group forming a five-member ring or a six-member ring; and



wherein R₇₁ represents a hydrogen atom or a substituent; and Z₇ represents a group forming a five-member ring or a six-member ring;

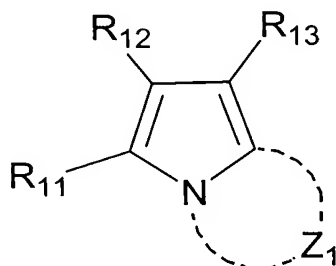
wherein the substituents represented by R₁₁, R₁₂, R₁₃, R₂₁, R₂₂, R₃₁, R₃₂, R₄₁, R₄₂, R₅₁, R₆₁ and R₇₁ are each independently selected from the group consisting of an alkyl group having 1 to 40 carbon atoms, an alkenyl group having 2 to 8 carbon atoms, an alkynyl group having 2 to 8 carbon atoms, an aryl group having 6 to 40 carbon atoms, an amino group having 0 to 6 carbon atoms, an alkoxyl group having 1 to 8 carbon atoms, an aryloxy group having 6 to 12 carbon atoms, an acyl group having 1 to 12 carbon atoms, an alkoxycarbonyl group having 2 to 12 carbon atoms, an aryloxycarbonyl group having 7 to 10 carbon atoms, an acyloxy group having 2 to 10 carbon atoms, an acylamino group having 2 to 10 carbon atoms, an alkoxycarbonylamino group having 2 to 12 carbon atoms, an aryloxycarbonylamino group having 7 to 12 carbon atoms, a sulfonylamino group having 1 to 12 carbon atoms, a sulfamoyl group having 0 to 12 carbon atoms, a carbamoyl group having 1 to 12 carbon atoms, an alkylthio group having 1 to 12 carbon atoms, an arylthio group having 6 to 20 carbon atoms, a sulphonyl group having 1 to 12 carbon atoms, a sulfinyl group having 1 to 12 carbon atoms, an ureide group having 1 to 12 carbon atoms, a phosphoric amide group having 1 to 12 carbon atoms, a hydroxy group, a mercapto group, a halogen atom, a cyano group, a sulfo group, a carboxyl group, a nitro group, a hydroxamic acid group, a surufino group, a hydrazino group, an imino group, and a heterocycle group having 1 to 12 carbon atoms;

said substituents are each independently unsubstituted or further substituted with an alkyl group, an alkenyl group, an aralkyl group, an aryl group, an acyl group, an alkoxy group, an aryloxy group, an acyloxy group, an alkoxy carbonyl group, an aryloxy carbonyl group, a carbonylamino group, a sulfonyl amino group, a sulfamoyl group, a carbamoyl group, a cyano group, a halogen atom, a hydroxy group or a heterocyclic group;

the heterocyclic compound represented by the formula (I) is not indolizine; and
a field-effect mobility of electrons of the heterocyclic compound is $1.0 \times 10^{-3} \text{ cm}^2/\text{Vs}$
or more.

Claim 2 (Original): The organic thin film transistor according to Claim 1, wherein said heterocyclic compound containing a nitrogen atom is a compound expressed by a following general formula (I):

(I)

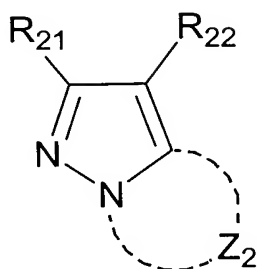


wherein R₁₁, R₁₂ and R₁₃ each independently represents a hydrogen atom or a substituent; and

Z₁ represents an atomic group forming a five-member ring or a six-member ring.

Claim 3 (Original): The organic thin film transistor according to Claim 1, wherein said heterocyclic compound containing a nitrogen atom is a compound expressed by a following general formula (II):

(II)

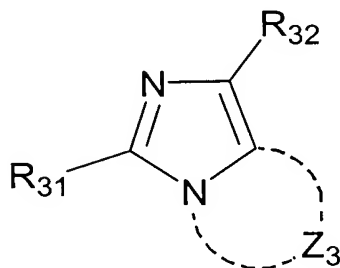


wherein R₂₁ and R₂₂ each independently represents a hydrogen atom or a substituent;
and

Z₂ represents an atomic group forming a five-member ring or a six-member ring.

Claim 4 (Original): The organic thin film transistor according to Claim 1, wherein said heterocyclic compound containing a nitrogen atom is a compound expressed by a following general formula (III):

(III)

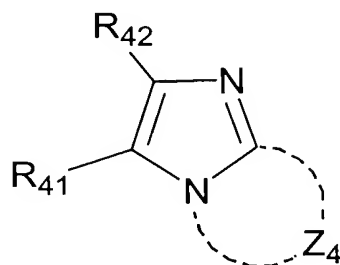


wherein R₃₁ and R₃₂ each independently represents a hydrogen atom or a substituent;
and

Z₃ represents an atomic group forming a five-member ring or a six-member ring.

Claim 5 (Original): The organic thin film transistor according to Claim 1, wherein said heterocyclic compound containing a nitrogen atom is a compound expressed by a following general formula (IV):

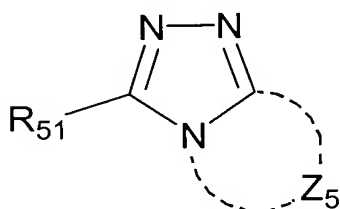
(IV)



wherein R₄₁ and R₄₂ each independently represents a hydrogen atom or a substituent;
and
Z₄ represents an atomic group forming a 5-member ring or a 6-member ring.

Claim 6 (Original): The organic thin film transistor according to Claim 1, wherein said heterocyclic compound containing a nitrogen atom is a compound expressed by a following general formula (V):

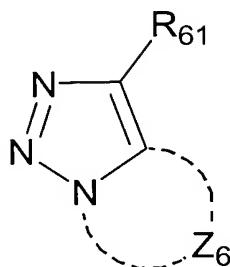
(V)



wherein R₅₁ represents a hydrogen atom or a substituent; and
Z₅ represents an atomic group forming a five-member ring or a six-member ring.

Claim 7 (Original): The organic thin film transistor according to Claim 1, wherein said heterocyclic compound containing a nitrogen atom is a compound expressed by a following general formula (VI):

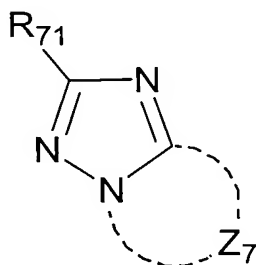
(VI)



wherein R₆₁ represents a hydrogen atom or a substituent; and
Z₆ represents an atomic group forming a five-member ring or a six-member ring.

Claim 8 (Original): The organic thin film transistor according to Claim 1, wherein said heterocyclic compound containing a nitrogen atom is a compound expressed by a following general formula (VII):

(VII)



wherein R₇₁ represents a hydrogen atom or a substituent; and
Z₇ represents a group forming a five-member ring or a six-member ring.

Claim 9 (Previously Presented): The organic thin film transistor according to Claim 1, wherein the distance between the source electrode and the drain electrode is 5 μ m to 1mm.

Claim 10 (Previously Presented): The organic thin film transistor according to Claim 1, wherein the source electrode and the drain electrode are formed on the insulating layer.

Claim 11 (Previously Presented): The organic thin film transistor according to Claim 1, wherein the source electrode and the drain electrode are formed on the organic semiconductor layer.

Claim 12 (Previously Presented): The organic thin film transistor according to Claim 1, wherein the source electrode and the drain electrode are formed on the substrate.

Claim 13 (Canceled).

Claim 14 (Previously Presented): The organic thin film transistor according to Claim 1, wherein the source electrode and the drain electrode are juxtaposed on the substrate.

Claim 15 (Previously Presented): The organic thin film transistor according to Claim 1, wherein the source electrode and the drain electrode are formed in contact with a same plane.

Claim 16 (Previously Presented): The organic thin film transistor according to Claim 1, comprising a device structure selected from the group consisting of:

(A) the gate electrode, the insulating layer, a pair of the source electrode and the drain electrode and the organic semiconductor layer formed on the substrate in said order;

(B) the gate electrode, the insulating layer, the organic semiconductor layer and a pair of the source electrode and the drain electrode formed on the substrate in said order;

(C) a pair of the source electrode and the drain electrode, the organic semiconductor layer, the insulating layer and the gate electrode formed on the substrate in said order; and

(D) the organic semiconductor layer, a pair of the source electrode and the drain electrode, the insulating layer and the gate electrode formed on the substrate in said order.

Claim 17 (Previously Presented): The organic thin film transistor according to Claim 1, wherein the source electrode and the drain electrode are in contact with the organic semiconductor layer.